Name:

at1113exam: Expand, factor, and solve quadratics (v325)

1. Solve the equation.

$$(4x + 7)(2x + 5) = 0$$

$x = \frac{-7}{4}$ $x = \frac{-5}{2}$

2. Expand the following expression into standard form.

$$(5x - 2)(4x - 7)$$

$20x^2 - 35x - 8x + 14$

$20x^2 - 43x + 14$

3. Expand the following expression into standard form.

$$(2x + 9)(2x - 9)$$

$4x^2 - 18x + 18x - 81$

$4x^2 - 81$

4. Expand the following expression into standard form.

$$(3x - 2)^2$$

$9x^2 - 6x - 6x + 4$

$9x^2 - 12x + 4$

5. Factor the expression.

$$16x^2 - 9$$

$$(4x - 3)(4x + 3)$$

6. Solve the equation with factoring by grouping.

$$18x^2 + 15x + 24x + 20 \;=\; 0$$

$$(3x + 4)(6x + 5) = 0$$

$$x = \frac{-4}{3} \qquad x = \frac{-5}{6}$$

7. Solve the equation.

$$5x^2 - 9x - 77 \;=\; 3x^2 - 2x - 5$$

$$2x^2 - 7x - 72 = 0$$

$$(2x + 9)(x - 8) = 0$$

$$x = \frac{-9}{2} \qquad x = 8$$

8. Factor the expression.

$$x^2 + 11x + 24$$

$$(x + 8)(x + 3)$$